While the adiabatic effects on relativistic electrons mirroring near the equator is well known, not much attention has been paid to the adiabatic effects on relativistic electrons mirroring at low altitude. The adiabatic effects on low-altitude electrons include the expansion of the drift shell as well as the altitude rise of the mirror point that is unique at low altitude. Using a modified dipole model, we demonstrate that the flux change at given altitude depends on the altitude and the particular magnetic storm. The rise of their mirror points can lead to a null flux region. A low-altitude satellite in the null flux region can see zero flux during the storm time just due to adiabatic effects, but this null flux is quickly filled by even moderate pitch angle diffusion. A satellite above the null flux region can see a significant flux drop due to the adiabatic effects, e.g., a factor of 2.4-2.8 decrease in the March 2008 geomagnetic storm studied in this work for relativistic electrons mirroring at 700 km and L*=4.5. This work is the first proof-of-concept study backed with quantitative analysis for the adiabatic effect on the variation of outer radiation belt electrons at low altitude.